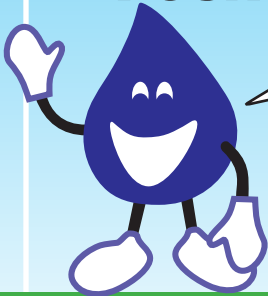


# Stormwater Management

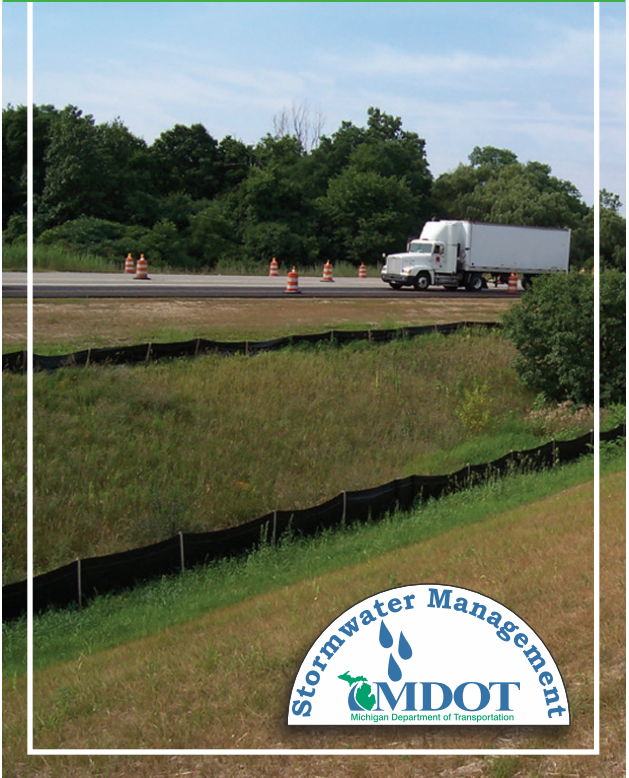
*Maintain your BMPs!*

## Construction Site Soil Erosion and Pollution Prevention Pocket Guide



*Go the extra  
mile to protect  
waterways! Keep  
this pocket guide  
with you in the  
field at all times.*

Together... Better Roads, Cleaner Streams



## **Introduction to the Guide**

This pocket guide serves as a companion document to the Michigan Department of Transportation (MDOT) Soil Erosion and Sedimentation Control (SESC) Manual. It is intended to aid the implementation and daily maintenance of best management practices (BMPs) for sediment and erosion control and pollution prevention on MDOT construction sites. Please consult MDOT's SESC Manual for more information on each BMP and for a full list of BMPs. Because construction sites require daily inspection, this pocket guide also contains a site overview checklist on the back for quick reference.

### ***Good for Highways... and the Environment***

Erosion control is good for the environment and highway safety. Uncontrolled erosion during highway construction, and subsequent sedimentation, can impact streams, damage drainage structures and lands, and result in a violation of MDOT's Municipal Separate Storm Sewer System (MS4) permit. Stabilized slopes are aesthetically pleasing and protect against erosion.

BMPs require regular inspection at least every seven days and within 24 hours after every precipitation event that results in a discharge from the site, including weekend days, regardless of whether the contractor is working or not. When needed, corrective action is required within 24 hours of a discharge to a water of the state and within five calendar days of the inspection in all other circumstances.

***An Ounce of Prevention is  
Worth a Pound of Cure!***

### ***Erosion and Sedimentation Details***



Erosion and sedimentation (E&S) standard details come from MDOT's SESC Manual.

**Scan the QR code to  
access all of the MDOT  
SESC standard details.**

# Table of Contents

Erosion Basics .....	1
----------------------	---

## ***Soil Erosion and Sedimentation Control***

Permanent/Temporary Seeding E&S-3-A .....	3
Dust Control E&S-4-A .....	5
Vegetative Buffers E&S-6-A, E&S-22-A .....	7
Riprap E&S-7-A .....	9
Gravel Access Approach E&S-14-A .....	11
Dewatering with Filter Bag E&S-18-A .....	13
Sediment Trap E&S-20-A .....	15
Silt Fence E&S-26-A .....	17
Inlet Protection Fabric Drop E&S-29-A .....	19
Inlet Protection Geotextile and Stone E&S-30-A .....	21
Mulch Blankets E&S-33-A .....	23
Cofferdam/Construction Dam E&S-34-A, E&S-36-A .....	25
Check Dam E&S-37-A .....	27

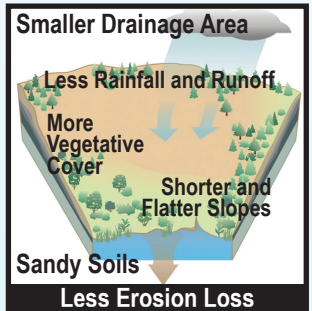
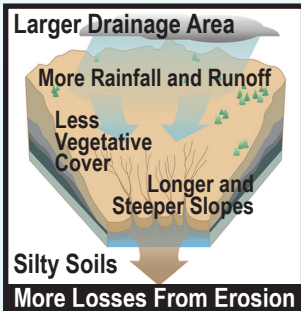
## ***Pollution Prevention***

Concrete/Asphalt Diamond Grinding Disposal .....	29
Concrete Washout Facilities .....	30
Dumpster and Solid Waste Disposal .....	31
Hazardous/Polluting Construction Material Disposal .....	32
Hydro Demolition Material Disposal .....	33
Temporary Sanitary Waste Facilities .....	34
Site Overview Checklist .....	35

# Erosion Basics

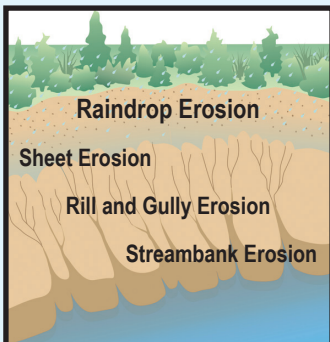
## What Contributes to Erosion?

- Removing vegetation, topsoil, and organic matter.
- Reshaping the lay of the land.
- Exposing subsoil to precipitation.
- Failure to cover bare soil areas.
- Allowing gullies to form and grow larger.
- Rainfall frequency and intensity.
- Slope (steep = more, flat = less).
- Soil structure and type of soil (silty = more erosion).
- Vegetation (more vegetation = less erosion).



## Types of Erosion

Raindrop erosion occurs when drops hit the earth and break down soil structure. Slope runoff creates sheet erosion, which can lead to the formation of small rill channels and larger gullies. Erosion of unprotected stream banks results from removing vegetation and higher flows, which are caused by uncontrolled runoff from construction sites.



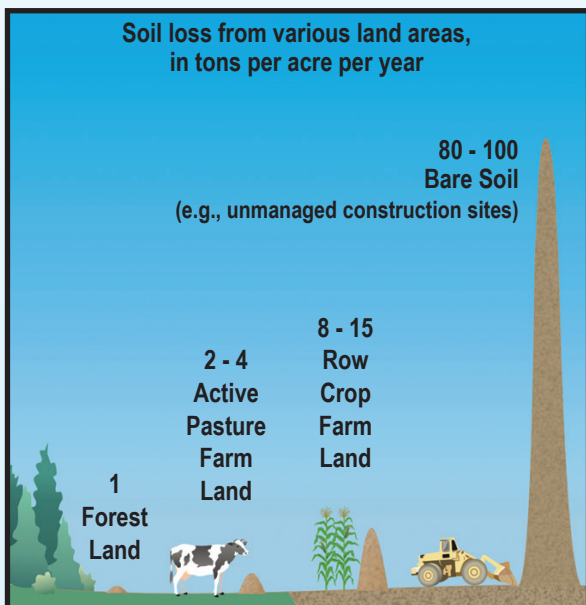


## ***Slope Protection to Prevent Erosion***

Slopes, especially long or steep slopes, must be protected to prevent sheet, rill, and gully erosion. Stabilize slopes within five days of final grading. Seeding and mulching provide the best and least expensive protection. Mulch blankets or turf reinforcement mats are needed on most slopes greater than 1:3.

Steeper slopes (1:3 or steeper) require more protection than flatter slopes. Slopes with highly erodible soils (silty soils) need more protection than those with less erodible soils (sands and gravels). Also, long slopes (greater than 50 feet) are at greater risk for erosion than short slopes.

### ***Typical Erosion Rates for Land-Based Activities***



### ***Controlling Sediment-Laden Runoff***

- Soak it in. Maximize seeding and mulching.
- Sift it out. Use silt fences or other filters.
- Slow it down. Don't let gullies form.
- Spread it around. Break up concentrated flows.
- Settle it out. Use sediment traps and basins.

## **E&S-3-A**

### **Permanent/Temporary Seeding**

---

Seeding, and the resulting vegetation, is an inexpensive but effective erosion control. Vegetation controls erosion by physically protecting bare soil from raindrop impact, flowing water and wind. Plant roots hold soil in place. Vegetated areas allow runoff to permeate into the soil and reduce velocity and runoff volumes. Vegetated areas also reduce dust from the construction area.

#### ***Proper Installation***

- Properly prepare seedbed.
- Apply seed and fertilizer according to MDOT specifications.
- Seeding must be followed by protective mulch. Place mulch within one day after seeding.

#### ***Inspection and Maintenance***

- Maintain seedbed, correcting and reseeding washed out areas. Upland BMPs may be necessary as directed by the engineer.
- Look for patchy growth and reseed where needed.
- Look for areas where mulch has been washed or blown away and re-mulch where needed.

#### ***Tips***

- Use an MDOT-approved seed mix.
- Follow seasonal limitations for specific project areas. If seeding cannot be accomplished due to the season, use a temporary erosion control until the appropriate season.
- Grasses should emerge within four to 28 days, and legumes five to 28 days after seeding.
- Do not seed until spring thaw and never in the heat of the summer, per 2020 Standard Specifications for Construction 816.03.C.

***Maintain your BMPs!***  
***Inspect Temporary Erosion Controls Daily!***



Good seeding. Mixture has minimal weeds, grass has emerged, and no bare soil exists.



Poor erosion control. Seed growth is spotty; bare soil conditions enable erosion.

### ***Additional Reference***

- 2020 Standard Specifications for Construction Subsections 816.03 and 917.11

## **E&S-4-A Dust Control**

---

Construction sites can generate large areas of soil disturbance and open space for wind to pick up dust particles. Dust can be carried off-site, thereby increasing soil loss from the construction area and increasing the likelihood of sedimentation and water pollution.

Dust control measures can include mulching, sweeping, water, and applying calcium chloride polymers. Calcium chloride polymers inhibit vegetation, so do not apply them in areas that will be vegetated.

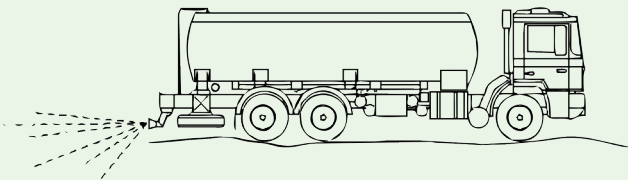
### ***Proper Application***

- Apply water to the project site until the soil is moist. Repeat as necessary.
- Avoid over-saturating the soil to minimize runoff.

### ***Inspection and Maintenance***

- Apply water to control dust as necessary.
- Dust control requires constant maintenance, especially during hot, dry weather.
- Look for areas where dust has settled on pavement. Sweep it up and dispose of it properly.

**Dust is a nagging problem on large construction sites. Vigilant maintenance by the contractor is required to keep it under control.**





Good dust control. Even distribution of water, controlled application to avoid vegetated areas.



Poor dust control. Site has dust blowing from equipment travel, water application not present or inadequate.

### ***Tips***

- Check the dust control system for proper spray coverage to ensure even water distribution.
- The effectiveness of this BMP can be limited by soil, temperature, and wind speed.

### ***Additional Reference***

- 2020 Standard Specifications for Construction Subsection 107.15.A

## E&S-6-A, E&S-22-A Vegetative Buffers

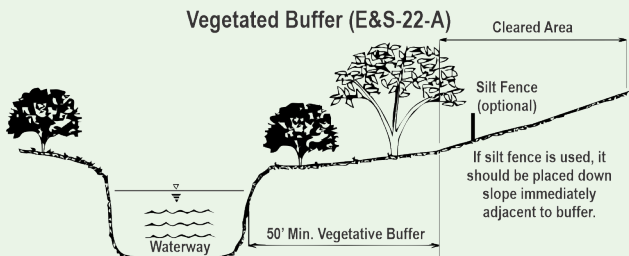
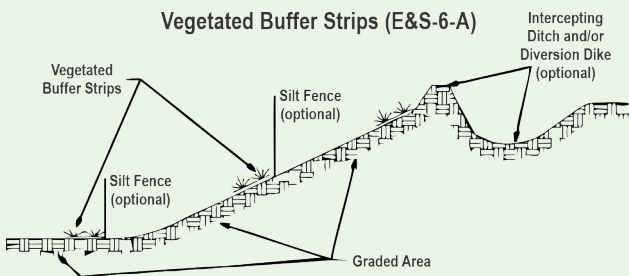
Vegetated buffer strips (E&S-6-A) are used to reduce sheet flow velocities to prevent rilling and gullying. Vegetative buffers (E&S-22-A) protect waterways by filtering sediment from a construction site.

### *Proper Installation*

- Construct buffers 20 feet wide and 50 feet apart to reduce sheet flow velocities. An optional diversion dike may be placed at the top of the slope to prevent water from running over the graded area.
- Use a buffer width (distance from the edge of disturbed ground to the edge of a watercourse) of at least 50 feet.
- Silt fence is required when buffer width is inadequate.

### *Inspection and Maintenance*

- Look for areas where buffers are being impacted by construction activities. Relocate construction activities away from buffers.
- If using a silt fence, remove collected sediment before it reaches halfway up the fence.
- Stabilize disturbed areas upslope of the buffer before the buffer is removed.





Buffer is fenced off to protect the watercourse. Buffer width is inadequate and cannot be widened, so a silt fence is required. Silt fence is properly installed and maintained.



Vegetative buffer is removed. Silt fence is poorly maintained. No measures are in place to keep sediment out of the waterway.

### ***Tips***

- Use flagging or a protective fence to remind equipment operators to stay away from the buffer.
- A silt fence and buffers work together to protect waterways.
- Preserve existing vegetation within the buffer.



## E&S-7-A Riprap

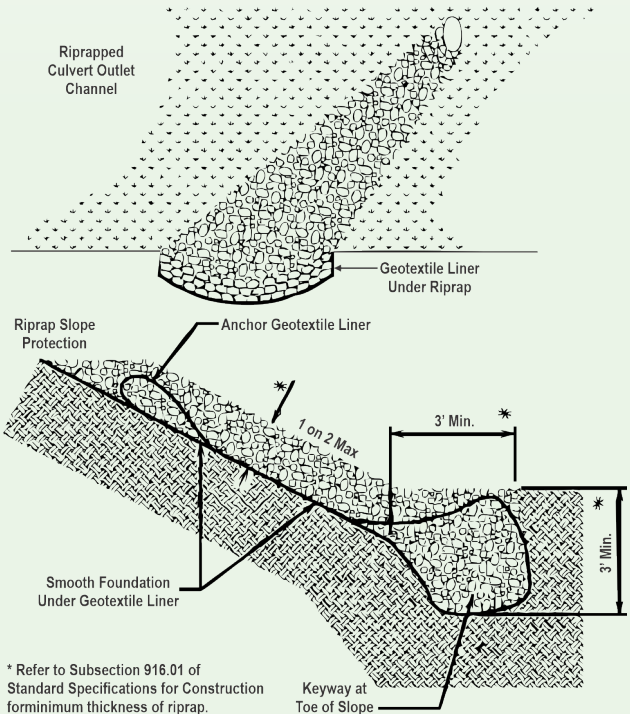
Riprap provides an effective, non-erodible cover over exposed areas. It can protect areas from erosion caused by wind, rain and snowmelt. Riprap installed at culvert outlets can protect the stream bed and channel from erosion.

### *Proper Installation*

- Install a geotextile liner under the riprap.
- Use riprap consisting of natural stone, solid pre-cast concrete blocks, or sound pieces of concrete.
- Riprap must be free of soil and visible rebar.
- When the riprap will be a permanent control, align the top of the riprap approximately level with the surrounding soil area.

### *Inspection and Maintenance*

- Repair washed out areas.
- If the culvert end section is present, be sure the silt fence is maintained in the unstabilized area upslope of end section.







Good use of riprap to dissipate flow and prevent erosion at outlet. Silt fence is installed properly upslope of the culvert end sections to prevent erosion of unstabilized earth.



Poor riprap maintenance. Soil is overtopping the riprap. Silt fence is breached in multiple locations.

### ***Tips***

- Properly secure the edges of the geotextile liner to prevent the piping of runoff under the riprap.
- Use a silt fence to prevent sediment from getting onto the riprap.

### ***Additional Reference***

- 2020 Standard Specifications for Construction Subsections 813.03.E and 916.01.C

## E&S-14-A Gravel Access Approach

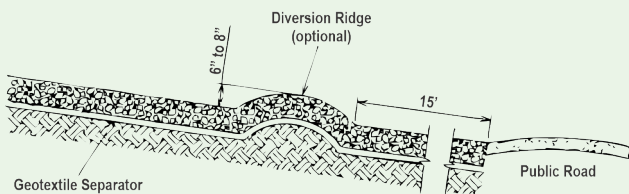
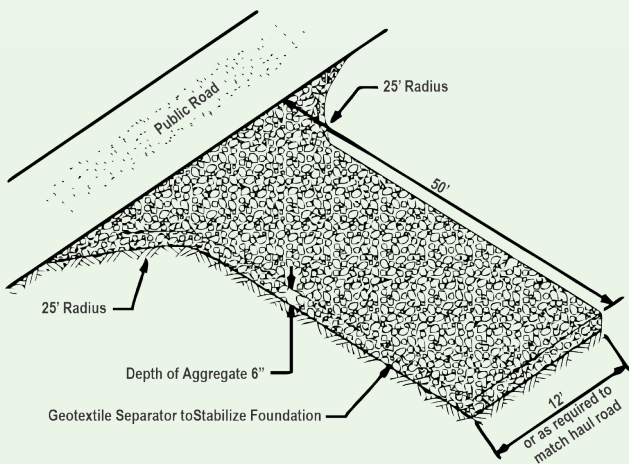
A gravel access minimizes the tracking of loose soil from the construction site onto public roadways, which in turn can be washed into the drainage system or blown away in the wind.

### *Proper Installation*

- Place the geotextile separator on the ground, prior to the aggregate.
- The aggregate layer must be at least 6 inches thick.
- Extend gravel access at least 50 feet from the edge of the roadway.
- Choose aggregate size and gradation in accordance with MDOT's SESC Manual.

### *Inspection and Maintenance*

- Install additional clean aggregate, as needed.
- Use roadway sweeping in conjunction with the gravel access approach.





Good gravel access approach. Approach extends at least 50 feet from roadway.



Lack of gravel access approach. Sediment is being tracked into roadway with a drainage structure nearby. Drainage structure should be protected.

### ***Tips***

- Use a geotextile separator.
- Keep construction access in good working condition. Sediment on roadways is a common citizen complaint.

### ***Additional Reference***

- 2020 Standard Specifications for Construction Subsections 208.03.C13 and 916.01.D.5

## E&S-18-A Dewatering with Filter Bag

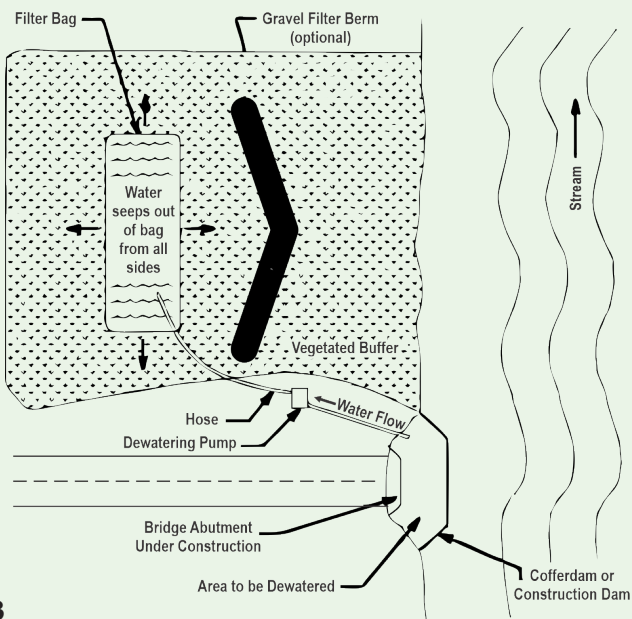
Filter bags are used to filter sediment-laden water pumped from dewatering operations.

### *Proper Installation*

- Locate the filter bag on level ground in a vegetated area.
- Locate the filter bag above watercourses.
- Locate the filter bag a sufficient distance from the watercourse or wetland to allow for proper settling and filtering through vegetation.
- Size the filter bag based on flow rate, with 225 square feet as a minimum.
- Use gravel filter berms and sediment traps/basins with a filter bag for added sediment control.

### *Inspection and Maintenance*

- Check bag for wear, holes, or tears during pumping.
- Properly dispose of the bag when full or no longer needed.
- Verify that the filter bag is filtering sediment.
- Add gravel filter berms or sediment traps/basins, as needed.





Good installation on a flat, vegetated area. Located a good distance from watercourse. Make sure gravel and berm are isolated and in good working condition, if used.



Poor installation on unlevel ground with limited vegetation.

### ***Tips***

- Direct discharges into waterways from dewatering operations are prohibited.
- Discharges into sanitary sewers from dewatering operations require permission from the wastewater treatment plant owner.
- Place the filter bag on a flat, vegetated area.
- Size the filter bag according to flow rate.

### ***Additional Reference***

- 2020 Standard Specifications for Construction Subsections 208.03.C.3 and 208.03.C.6

## E&S-20-A Sediment Trap

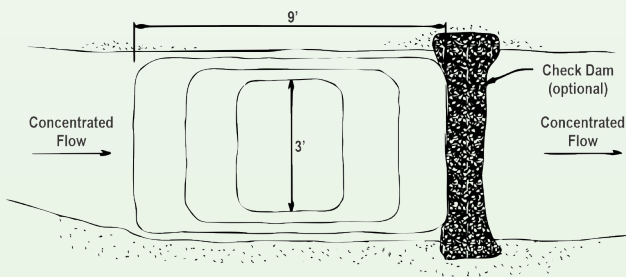
Sediment traps are used to intercept concentrated flows and capture sand or larger-sized particles.

### *Proper Installation*

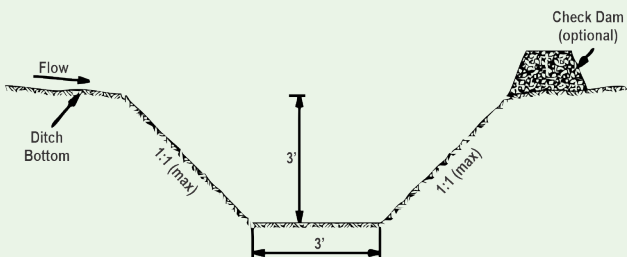
- Sediment trap volume is 5 cubic yards or less.
- Avoid bypass flows by sizing trap width to intercept all flow.
- Use sediment traps in conjunction with check dams.

### *Inspection and Maintenance*

- Remove deposited sediment when it reaches 50 percent of the trap's capacity.
- If a check dam is used, clean and maintain sediment captured behind check dams.
- Remove or stabilize sediment traps when the contributing area is permanently stabilized, as directed by the engineer.



Note: Width of trap should not extend beyond normal ditch banks.







Good trap construction. Check dam has proper overflow notch, clearly defined trap. Proper seeding and vegetation in surrounding area. Front and back slopes 1:1 (max).



Sediment trap is not deep enough, wide enough, or long enough. Lack of vegetated buffer surrounding waterway.

### ***Tips***

- Do not rely on traps alone to control sediment loss from a construction site.
- Do not install traps in flowing waterways.
- Use a series of sediment traps for larger drainage areas.

### ***Additional Reference***

- 2020 Standard Specifications for Construction Subsection 208.03.C.2

## E&S-26-A Silt Fence

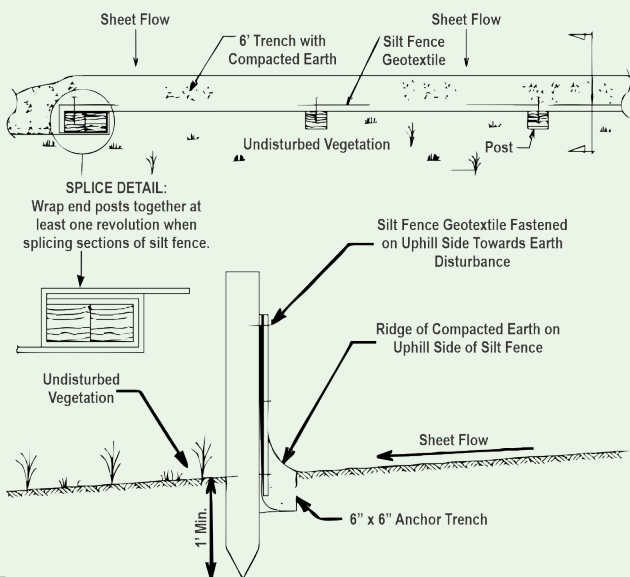
A silt fence inhibits the migration of sediment from bare soil off a construction site. It also impedes the movement of sediment-laden water, allowing deposition and retention of sediment.

### ***Proper Installation***

- Trench in the silt fence a minimum of 6 inches.
- Install posts on the downhill side.
- Space posts a maximum of 6.5 feet apart.
- Install the silt fence along the same contour line.
- Turn the silt fence ends upslope if possible.

### ***Inspection and Maintenance***

- Look for sagging fabric or bulging from sediment buildup.
- Replace if torn or if posts are damaged.
- Remove sediment held by the silt fence when it reaches approximately 50 percent of the fence height.
- Stabilize the disturbed area completely before removing the silt fence.
- Remove when authorized by the engineer.







Good use of silt fence with stakes installed properly. Inspect and maintain fences daily to ensure they are functioning properly.



Poor attention to silt fence maintenance. Do not pile materials on the fence. Remove collected sediment before it reaches halfway up the fence.

### ***Tips***

- Seed and mulch the disturbed area as soon as possible.
- Place posts on the downhill side.
- Ensure the bottom of fence is completely trenched in.

### ***Additional Reference***

- 2020 Standard Specifications for Construction Subsections 208.03.C.5 and 916.02

## E&S-29-A Inlet Protection Fabric Drop

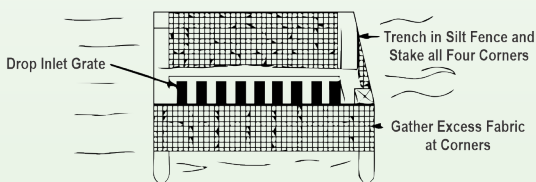
An inlet protection fabric drop is used to prevent sediment from entering a drainage structure.

### *Proper Installation*

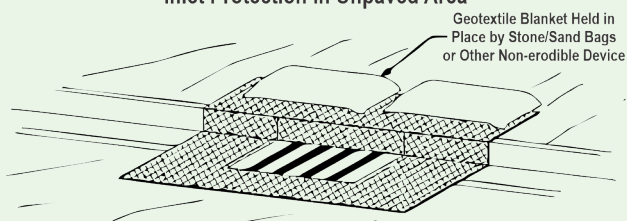
- If the drainage structure is not located in the curb, install a silt fence around the outside of the drainage structure, trenching in around the entire perimeter.
- If the drainage structure is located in the curb, install a geotextile blanket between the cover and frame of the drainage structure.
- The geotextile must be trenched in or otherwise held in place behind the curb line.

### *Inspection and Maintenance*

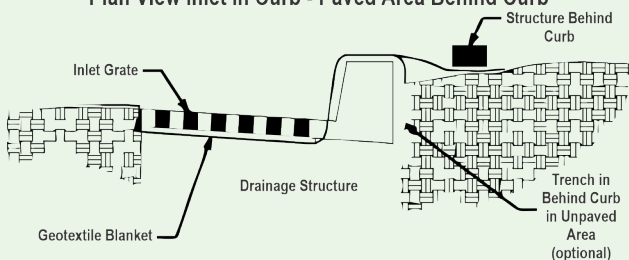
- Remove and dispose of sediment as necessary.
- Never wash sediment or other materials down inlets.
- Make sure the geotextile blanket is secured behind the curb.



**Inlet Protection in Unpaved Area**



**Plan View Inlet in Curb - Paved Area Behind Curb**



**Cross Section Inlet in Curb - Paved or Unpaved Area Behind Curb**



Good inlet protection filtering sediment-laden water prior to its entry into the drainage system. Geotextile is properly secured behind the curb.



Geotextile should be anchored behind the curb.

### ***Tips***

- In unpaved areas, use gravel filter berms in a corner of the inlet when stormwater enters the inlet at a high speed.
- Remove the inlet protection when construction activities are complete.

### ***Additional Reference***

- 2020 Standard Specifications for Construction Subsections 208.03.C.7 and 916.04

## E&S-30-A Inlet Protection Geotextile and Stone

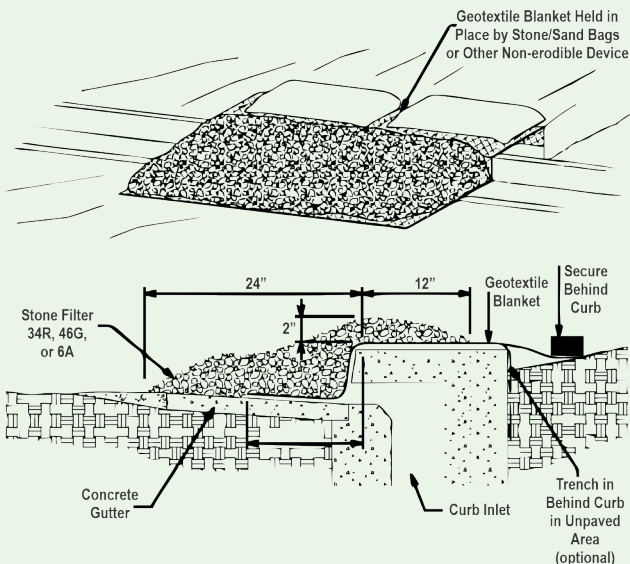
Inlet protection using geotextile and stone enables settling and filtration of sediment-laden water prior to entry into a drainage system. This method is applicable at curb inlets where ponding in front of the structure is not likely to cause a safety hazard.

### *Proper Installation*

- Place a geotextile blanket on top of the drainage structure casting and cover with clean stone, 34R, 46G, or 6A aggregate.
- Secure the geotextile by trenching in behind the curb or with sand or stone bags.

### *Inspection and Maintenance*

- Make sure inlet protection is not causing unsafe flooding.
- Remove trapped sediment from around the stone, as needed.
- If stones are being displaced, consider using a fabric drop, if possible.





Good application of stone or aggregate above geotextile for inlet protection. Mixed stone promotes better drainage and settling of sediment.



Geotextile is improperly installed on top of the structure. Poor maintenance of geotextile and stone layer.

### ***Tips***

- Secure the geotextile blanket behind the curb.
- Remove inlet protection when construction is complete.
- Remove the stone and geotextile carefully to prevent loss of sediment into the inlet.

### ***Additional Reference***

- 2020 Standard Specifications for Construction Subsections 208.03.C.8 and 916.05

## **E&S-33-A Mulch Blankets**

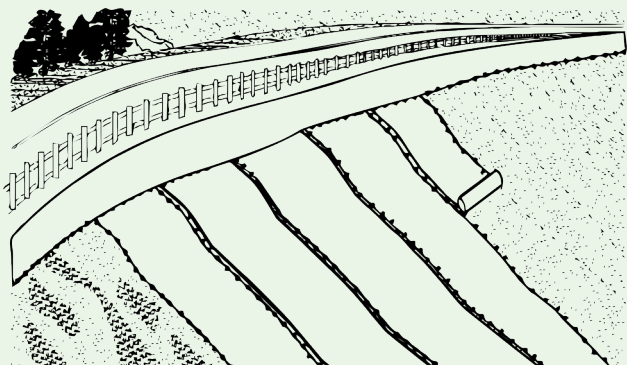
Mulching slopes and ditches minimizes erosion and promotes vegetation growth by providing immediate cover of bare soil. Mulch blankets have netting on one side. High-velocity mulch blankets have netting on both sides.

### ***Proper Installation***

- Use mulch blankets on slopes flatter than 1:2, adjacent to shoulders, behind curbs, and in ditch bottoms with slopes up to 1.5 percent.
- Use high-velocity mulch blankets on 1:2 slopes and in ditches with grades of 1.5 to 3 percent.
- Use turf reinforcement mats on slopes steeper than 1:2 and ditches with grades steeper than 3 percent.
- Trench in all mulch blankets at the top of the slope.
- For channels below slopes, install the top blanket parallel to the roadway. Install blankets up and down the slope, perpendicular to the roadway.
- Anchor mulch blankets in accordance with the Standard Specifications for Construction and manufacturer guidelines.
- Use wood stakes. Steel pins and staples are prohibited.

### ***Inspection and Maintenance***

- Look for channels forming under the mulch blanket. Repair as necessary, trenching in at the top of slope.
- Re-anchor a slipping mulch blanket.







Good installation and maintenance of mulch blankets. Grass is establishing properly after application. Blankets are anchored properly at the top and bottom.



Mulch blanket is not anchored properly, side edges are not overlapped. The side edge overlap should be at least 2 inches.

### ***Tips***

- Apply topsoil, seed, and fertilizer before installing the blankets.
- Do not stretch the blankets during installation.
- Place mulch blanket within one day of seeding.

### ***Additional Reference***

- 2020 Standard Specifications for Construction Subsections 816.03.G and 917.14

## E&S-34-A, E&S-36-A Cofferdam and Construction Dam

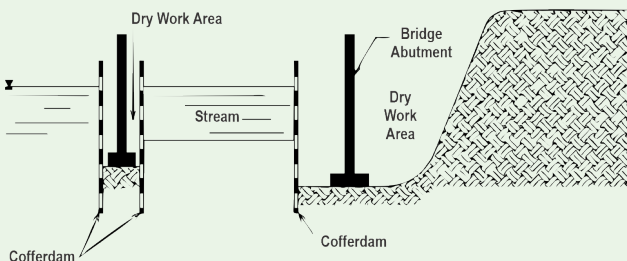
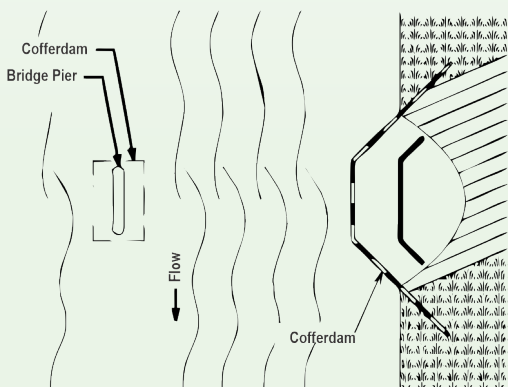
A cofferdam or construction dam is used to isolate stream flow from a construction site when dry work conditions are needed for a prolonged time.

### *Proper Installation*

- Cofferdams are usually built using steel sheet pile.
- A construction dam can be made of any non-erodible materials such as sand or stone bags. If approved by the engineer, steel sheet piling, steel plates, or concrete barriers with a geotextile membrane can be used.

### *Inspection and Maintenance*

- Dewater cofferdams in accordance with the Standard Specifications for Construction Subsection 208.03.C.3 and contract documents.
- Remove construction dam materials, as necessary.







Cofferdam: Good use of cofferdam with turbidity curtain. Properly dispose of excavated waste/material and sediment-laden water.



Construction Dam: Plastic sheeting covering berm separates water from construction area.

### ***Tips***

- Be careful when removing a construction dam to prevent sediment from entering the waterway.
- Remember to properly dispose of any excavated soil.

### ***Additional Reference***

- 2020 Standard Specifications for Construction Section 704
- Special provisions in the contract documents

***Cofferdam/Construction Dam  
E&S-34-A, E&S-36-A***

## E&S-37-A Check Dam

Check dams reduce the velocity of concentrated flows in ditches to minimize erosion and promote sediment deposition.

### *Proper Installation*

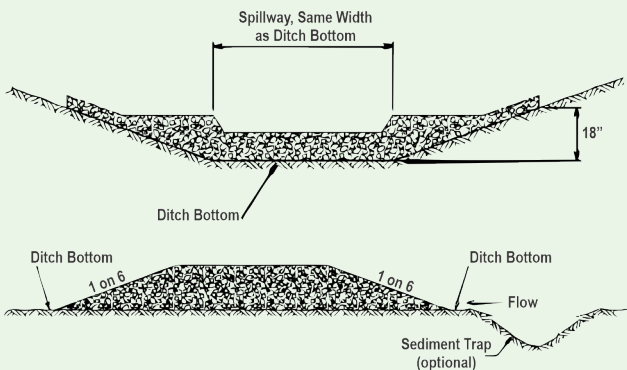
- Size the check dam spillway width to approximately the same width as the ditch bottom.
- Place stones up the sides of the ditch above the elevation on the spillway to prevent washouts.
- Size stone to be 2-4 inches for ditch grades less than 2 percent and 3-12 inches for ditch grades 2 percent and greater.
- Install check dams immediately downstream of sediment traps.

### *Inspection and Maintenance*

- Remove sediment behind check dams and within sediment traps.
- Repair and maintain check dams, as needed.

### *Tips*

- Do not use hay or straw bales as check dams.
- Vegetate the drainage channel, if possible.
- Remove the check dam once ditch vegetation is established unless it is a permanent post-construction BMP for stormwater control.
- Notch the spillway in line with the ditch bottom.



Side View Showing Check Dam with Optional Sediment Trap



Stone is extended up sides of ditch to prevent wash-out. Located properly on downstream end of sediment trap. Dam has proper notch in center of spillway.



Poor installation. Dam is undersized for flow; notch is too wide and deep. Multiple check dams can be installed.

### ***Additional Reference***

- 2020 Standard Specifications for Construction Subsections 208.03.C.1, 208.03.C.2 and 916.01.D.1

## Concrete and Hot-Mix Asphalt Diamond Grinding Disposal

---

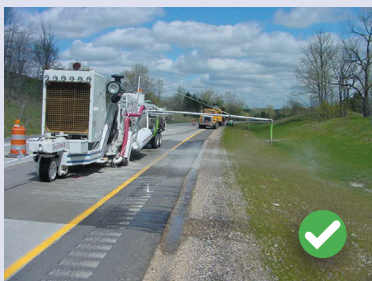
Slurry from concrete grinding and grooving may be a hazardous waste due to its high pH value. While the residue can be neutralized to avoid this designation, it is important that proper precautions be taken during the grinding operation to prevent the release of this residue into surface waters or its exposure to stormwater runoff.

### *Proper Procedures*

- Slurry from hot-mix asphalt ride quality diamond grinding is a liquid industrial waste and must be transported by a licensed liquid industrial waste hauler to a Type II municipal landfill or licensed liquid industrial waste disposal facility.
- If concrete grinding residue is to be disposed of by spreading on MDOT right of way, the project engineer's approval for the spread/disposable method must be obtained before beginning grinding (2020 Standard Specifications for Construction Subsection 603.03.C.1).
- The application rate must be monitored to avoid surface runoff or ponding.

### *Tips*

- Residue must not enter an enclosed drainage system or be spread within 5 feet from edge of curb or water-filled ditch, or within 100 feet of a waterway.
- Provide pollution prevention BMPs when working near waterways or drainage structures to keep slurry away.
- Be sure to read and understand the special provision covering this work.



Typical diamond grinding operation. Residue is being discharged away from enclosed drainage system and waterway.

## Concrete Washout Facilities

---

Concrete washout facilities prevent concrete waste from entering storm drains and waterways.

### *Proper installation*

- Concrete washout facilities include an excavation pit with hay bales or a silt fence installed along the perimeter.
- Place the bottom of the excavation pit at least 5 feet above groundwater and lined with a synthetic liner.
- Locate the concrete washout facility at least 50 feet from waterways or stormwater inlets.

### *Inspection and Maintenance*

- Clean out the excavation pit when it is 75 percent full.
- Replace any damaged or missing hay bales, silt fence, or other filtering devices.
- Properly dispose of any hardened concrete.

### *Tips*

- Do not allow concrete waste to flow into a storm drain or watercourse.
- Place a sign such as “Concrete Washout” or “Concrete Saw Water” near the concrete washout facility.
- Do not add any solvents, flocculants, or acid to the wash water.



Poor washout location. Concrete waste is not contained and has access to nearby river.

## **Dumpster and Solid Waste Disposal**

Solid waste is non-hazardous material, such as concrete, rock, debris, soil, wood, plastic, fabric, mortar, metal scraps, or general litter. Remove and properly dispose of all solid waste, including fences, fallen timber, logs, guardrail sections, posts, rocks, boulders, and all other rubbish. All job sites should remain orderly, free of trash, and minimize the quantity of waste generated.

### ***Proper Installation***

- Provide trash receptacles in various locations within the construction site.
- Locate the dumpster on a flat, concrete surface if possible.
- Do not place trash receptacles near drainage ways, inlets or watercourses.

### ***Inspection and Maintenance***

- Check and repair all dumpsters for leaks weekly.
- Use a trash hauling contractor to empty the receptacles.
- Keep the lid closed on the dumpster at all times. Consider posting a sign to remind users to close it.

### ***Tips***

- Cover dumpsters to minimize stormwater contact.
- Do not wash out trash receptacles at the construction site.
- Do not allow construction site dumpsters to be used for disposal of materials not associated with the construction project, such as household hazardous wastes.



Lid is open and dumpster is overflowing. Trash could be picked up by stormwater runoff.

# Hazardous/Polluting Construction Material Disposal

---

In addition to oil, gasoline and lubricants needed to operate construction equipment, many ordinary construction materials are classified as hazardous or polluting waste when leaked or spilled. These materials include solvents, paint, asphalt products, fertilizer, and concrete curing compounds.

## *Proper Procedures*

- Provide secondary containment and restrict access to hazardous and polluting material storage areas to prevent vandalism.
- Always follow specifications and manufacturer recommendations for the use and application rates of these materials to prevent excess materials from being picked up by stormwater runoff.

## *Inspection and Maintenance*

- Keep clean-up materials nearby, including spill kits, brooms, dust pans, mops, rags, goggles, and trash containers.
- Provide watertight storage containers to prevent discharges to waterways and drainage structures.

## *Tips*

- Fuel equipment only in clearly identified and designated fueling areas.
- Locate fueling areas downstream of any storm drainage structure and watercourse, on level grade, and built on an impermeable surface.
- Place barriers such as berms, sandbags or dikes to prevent stormwater contact.



Covered area away from watercourse.



Materials are placed directly on soil without spill/leak protection.



## **Hydrodemolition Material Disposal**

Hydrodemolition is a construction activity that uses high-velocity water jets to remove or demolish concrete. Hydrodemolition debris includes wet sand, aggregate, concrete chunks, and slurry water.

### ***Proper Procedures***

- Strict adherence to MDOT specifications is necessary to prevent the release of potentially polluting materials to waterways.
- Spent wastewater from hydrodemolition operations must be carefully filtered prior to being discharged.
- Ensure hydrodemolition operations do not spill into nearby waterways or drainage structures.

### ***Tips***

- Make sure suspended material from the spent wastewater is disposed of properly.
- Be sure to read and understand the special provision covering this work.



Hydrodemolition operation. Good use of berms to filter out pollutants.



# Temporary Sanitary Waste Facilities

---

Temporary sanitary waste facilities are part of most construction sites. Wastes from these facilities must not be allowed to pollute waterways.

## *Proper Installation*

- Locate temporary sanitary waste facilities away from drains, inlets, waterways, and areas of high traffic.

## *Inspection and Maintenance*

- Only licensed sanitary waste haulers are allowed to clean sanitary waste facilities.

## *Tips*

- Secure sanitary waste facilities in construction sites with high winds.
- Wastewater from sanitary facilities should not be allowed to reach drainage structures or waterways. Whenever applicable and feasible, wastewater should be connected to the sanitary sewer system.



Temporary sanitary facilities should never be located adjacent to a waterway. Secure facility on high-wind sites.

## **Site Overview Checklist**

---

### ***Silt Fence***

- Properly trenched.
- No breaches/gaps.

### ***Inlet Protection***

- Secure and intact.
- Not clogged.

### ***Vegetative Buffers***

- Clearly delineated.
- Not damaged.

### ***Slope Stabilization***

- Slopes and large areas are stabilized.
- Inactive spoil piles are covered or vegetated.

### ***Check Dam***

- Located to intercept flow.
- Extends up side slopes.

### ***Sediment Trap***

- Located to intercept flow.
- Not filled in.

### ***Filter Bag***

- Located in a flat, vegetated area above waterway.
- Intact and only partially filled.

### ***Gravel Access Approach***

- Gutter pan and street are swept.
- Aggregate not clogged.

### ***Administration***

- Complete MDOT Form 1126.
- Promptly complete corrective actions.
- Earth change plan completed for work between limits of earth disturbance and right of way.



**Report illegal discharges!**

**Call Pollution Emergency  
Alerting System (PEAS) at  
800-292-4706**



***Stormwater Management***

***[www.Michigan.gov/MDOT/Programs/  
Highway-Programs/Environmental-  
Efforts/Stormwater](http://www.Michigan.gov/MDOT/Programs/Highway-Programs/Environmental-Efforts/Stormwater)***

